eluded in their criteria is (1) a solubility greater than 30 ppm; (2) a soil sorption coefficient less than 5 mL/g; or (3) previous detection in ground water. Pesticides with usage of less than 1 million pounds per year nationwide were not considered.

On the basis of these data, EPA selected 90 pesticides to monitor. These pesticides are listed in Table 4.5. State programs should certainly consider all of the pesticides listed in Table 4.5, but they should riot overlook other pesticides, especially those that were excluded by the EPA because of low-volume usage nationally. The EPA has developed new analytical procedures so that only five chemical analyses were required to detect the 90 chemicals (H. J. Brass, Off ice of Drinking Water, memo to S. Cohen, Office of Pesticide Program, EPA, September 6,1985).

The New York State Department of Environmental Conservation has recommended that pesticide companies bear the cost of monitoring for pesticides that have the potential to pollute ground water. Shifting monitoring costs to the public sector encourages diseconomies since neither the farmer nor the pesticide manufacturer are paying the full economic cost for using leachable pesticides. The California bill AB 2021 originally required pesticide manufacturers to pay for monitoring. Due to pressure from the pesticide manufacturers, the bill was amended so the monitoring cost is borne by the state rather than by the pesticide manufacturers. However, AB 2021 is a very significant change in the approach taken by states in monitoring pesticides in that (1) it requires routine monitoring for pesticides identified as potential ground water contaminants; (2) it requires mandatory cancellation if monitoring results indicate that any agricultural use causes significant contamination; and (3) the burden of proof is on the manufacturer to show that the contamination level detected is not of concern.

Reduction in Pesticide Use

Pesticide use can be reduced by (1) implementation of alternate crop production patterns and techniques that require less pesticide; (2) modifications in agricultural practice, application equipment, and timing of changes in the formulation and use pattern of a pesticide product to reduce the likelihood it will leach; (3) replacement of leachable pesticides with materials that are less mobile, persistent, and toxic.

Integrated pest management (IPM) is a term that describes the use of a variety of pest control techniques either singly or in combination to develop more cost-effective management of pest populations. Because IPM promotes the use of nonchemical means of pest control and improves the efficacy of pesticides by improving the timing and placement of applications, IPM can usually reduce pesticide use as well as reduce production costs.